

Biology- Master of Arts, Master of Arts in Teaching, Master of Science, Doctor of Philosophy, Certificate

For information, contact:

Chair of Graduate Advisory Committee

Department of Biology

212 Pearson Hall, 513-529-3100

<http://MiamiOH.edu/cas/academics/departments/biology/academics/graduate-studies/index.html>

Research and Support Facilities

The department has outstanding laboratory facilities that are supported by the university, as well as grants from a variety of agencies and foundations including the National Institutes of Health, National Science Foundation, U.S. Department of Agriculture, and the U.S. Environmental Protection Agency. Facilities include DNA sequencing, synthesizing, and analytical equipment and specialized equipment for cellular, developmental and neurophysiological research, including electron microscopy and confocal laser facilities.

Miami University is located near excellent sites for field studies in terrestrial and aquatic ecosystems. The university's Ecology Research Center located two miles from campus has more than 200 acres devoted to a wide range of research projects in behavior, ecology, and environmental biology. In addition, Hueston Woods State Park and other nearby field sites are readily available to faculty and students.

The Biology Department also collaborates to offer Project *Dragonfly* online/hybrid graduate programs designed for working professionals located across the United States and abroad. These programs enable connections with leading zoos and botanical gardens as well as international Earth Expeditions field courses.

Admission Requirements

Admission is based on evaluations submitted by the departmental, the Graduate School, and (where applicable) the International Programs Office. Applicants for the Master of Science and Doctoral programs are required to make contact with and identify a prospective major advisor.

For Project *Dragonfly*/Biology degree programs, which include paths for a Master of Arts in Biological Sciences (MA) or Master of Arts in Teaching in the Biological Sciences (MAT), prospective applicants can learn more about admission requirements by visiting the Advanced Inquiry Program or Global Field Program websites.

Admission Requirements for the Master of Arts in Biology Program

Incoming students are expected to be over the age of 18 and have completed a bachelor's degree. The GRE is not required. Students admitted to the program who have not completed at least one university-level life science course or its equivalent will need to complete one of several options (determined by the MA graduate committee) for basic biology content as part of the Master's degree

program. Applicants submit application materials (short essays, CV/resume, and two letters of recommendation). Learn more at the following websites or contact us at 513-529-8576.

- Advanced Inquiry Program (AIP) - an online master's degree that combines web-based Miami graduate courses with face-to-face experiential learning and field study at some of the nation's premier zoos and botanical gardens.
- Global Field Program (GFP) - graduate students engage in online courses and, in the summer, travel to conservation hotspots in Africa, Asia, Australia, and the Americas to gain firsthand experience in conservation biology and participatory education.

Either program can lead to a Master of Arts in Biology (MA) or a Master of Arts in Teaching in the Biological Sciences (MAT).

Biology- Master of Arts

The Master of Arts (MA) in Biology is a part-time, non-thesis master's program designed for working professionals from diverse backgrounds, including formal and informal educators. The program is cooperatively offered by Project *Dragonfly* and the Department of Biology. The MA has two main programs: the Advanced Inquiry Program (AIP) and the Global Field Program (GFP). The master's is designed to be completed in 2.5 years.

Biology: Master of Arts (Project *Dragonfly*)

35 Semester Hours

| Code | Title | Credit Hours |
|---|--|--------------|
| Students may enroll in either the Advanced Inquiry Program (AIP) or the Global Field Program (GFP). | | |
| Advanced Inquiry Program (AIP) | | |
| Required Core Courses | | |
| BIO 631 | Conservation Science & Community | 3 |
| BIO 632 | Biology in the Age of Technology | 3 |
| BIO 634 | Issues in Evolution | 3 |
| BIO 636 | Science Leadership & Media Workshop | 3 |
| BIO 637 | Master's Capstone | 2 |
| Electives - (Include but not limited to) ¹ | | 21 |
| Students may substitute one Earth Expeditions course (5 credit summer + 2 credit fall Inquiry and Action) for seven AIP W+ credit hours.) | | |
| BIO 620 | Graduate Research (cannot exceed 10 hours) | |
| BIO 622 | Urban Ecology | |
| BIO 623 | Human Dimensions of Conservation | |
| BIO 625 | Environmental & Informal Science Education | |
| BIO 627 | Global Biomes | |
| BIO 638 | Climate Change | |
| BIO 640 | Internship | |
| BIO 654 | Foundations of Inquiry | |
| BIO 655 | Master Plan in Action | |
| BIO 656 | Environmental Stewardship in My Community | |
| BIO 657 | Regional Ecology | |

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|----------|---|
| BIO 658 | Ecophysiology |
| BIO 659 | Great Lakes Ecosystems |
| BIO 662 | Animal Behavior & Conservation |
| BIO 663 | Project Design & Assessment |
| BIO 667 | Conservation Research at Living Collection Institutions |
| BIO 677 | Independent Studies |
| BIO 694 | Habitats, Adaptations, & Evolution |
| BIO 677W | Independent Studies |
| BIO 695 | Plants & People |
| BIO 696 | Primate Behavior & Conservation |

Global Field Program (GFP)

Required Core Courses

| | | |
|---------|-------------------------------------|---------|
| BIO 631 | Conservation Science & Community | 3 |
| BIO 632 | Biology in the Age of Technology | 3 |
| BIO 634 | Issues in Evolution | 3 |
| BIO 636 | Science Leadership & Media Workshop | 3 |
| BIO 637 | Master's Capstone | 2 |
| BIO 675 | Inquiry & Action (take three times) | 2, 2, 2 |

Electives - (Include but not limited to)

Students enroll in three of the following Earth Expeditions courses: 15

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|----------|---|
| BIO 641 | Earth Expeditions: Advanced Field |
| BIO 642 | Amazon: Avian & Tropical Ecology |
| BIO 643 | Australia: Great Barrier Reef |
| BIO 644 | Baja: Field Methods |
| BIO 645 | Belize: Approaches to Environmental Stewardship |
| BIO 646 | Borneo: Primate Conservation |
| BIO 647 | Guyana: Local Wisdom & Conservation |
| BIO 649 | Kenya: Wildlife & People in Integrated Landscapes |
| BIO 651 | Mongolia: Steppe Ecology & Civic Media |
| BIO 652 | Thailand: Buddhism & Conservation |
| BIO 653 | India: Species, Deities & Communities |
| BIO 661 | Global Connected Conservation |
| BIO 691 | Costa Rica: Ecology & Ecotourism |
| BIO 681 | Galápagos: Islands of Change |
| BIO 682 | Paraguay: Eco-Leadership |
| BIO 683 | Brazil: Saving Golden Lion Tamarins |
| BIO 692 | Namibia: Great Cat Conservation |
| BIO 699U | Bahamas: Conservation Networks |

¹ Note that certain electives from the list may be required depending on a student's AIP location.

University to offer field placement components for specific degree programs. The Council may be contacted for a list of currently authorized programs. Authorization by the Council does not carry with it an endorsement by the Council of the institution or its programs. Any person desiring information about the requirements of the act or the applicability of those requirements to the institution may contact the Council at P.O. Box 43430, Olympia, WA 98504-3430, or by email at degreeauthorization@wsac.wa.gov.

The Washington Student Achievement Council (WSAC) has authority to investigate student complaints against specific schools. WSAC may not be able to investigate every student complaint. Visit <https://www.wsac.wa.gov/student-complaints> for information regarding the WSAC complaint process.

For Washington State residents seeking information and resources about student loan repayment or seeking to submit a complaint relating to your student loans or student loan servicer, please visit www.wsac.wa.gov/loan-advocacy or contact the Student Loan Advocate at loanadvocate@wsac.wa.gov.

The transferability of credits earned at Miami University is at the discretion of the receiving college, university, or other educational institution. Students considering transferring to any institution should not assume that credits earned in any program of study at Miami University will be accepted by the receiving institution. Similarly, the ability of a degree, certificate, diploma, or other academic credential earned at Miami University to satisfy an admission requirement of another institution is at the discretion of the receiving institution. Accreditation does not guarantee credentials or credits earned at Miami University will be accepted by or transferred to another institution. To minimize the risk of having to repeat coursework, students should contact the receiving institution in advance for evaluation and determination of transferability of credits and/or acceptability of degrees, diplomas, or certificates earned.

Biological Sciences- Master of Arts in Teaching

(35 semester hours)

For more information about requirements, admission, and program description go to <http://bulletin.miamioh.edu/graduate-fields-study/biological-sciences/>.

For the Master of Science and Doctoral Programs

All application instructions can be accessed through the Miami University Graduate Studies website (<http://www.miamioh.edu/graduate-studies/admission/>)

A complete application must include the following:

1. Submit your application, pay the application fee, and submit all supplemental materials (numbers 2-7 below) electronically: (<https://www.applyweb.com>).
2. Official copies of transcripts for all undergraduate and graduate work. Unofficial transcripts should be submitted with your application (with your name and institution clearly indicated). If admitted, you will be required to submit an official transcript for each degree earned.
3. An official copy of the Graduate Record Examination (GRE) general test. You may apply before completing the GRE, but your application will not be reviewed until an official score report is received.

Miami University is authorized by the Washington Student Achievement Council (WSAC) and meets the requirements and minimum educational standards established for degree-granting institutions under the Degree-Granting Institutions Act. This authorization is subject to periodic review and authorizes Miami

4. For most international applicants, an official copy of scores on the Test of English as a Foreign Language (TOEFL) is also required.
5. Resume.
6. Three letters of recommendation.
7. Personal Statement - a letter outlining professional goals, research interests, and potential faculty advisor(s). We encourage you to contact individual faculty members with whom you share a research interest (email links available on our web site: (<http://biology.MiamiOH.edu>) prior to submitting your application. To be admitted, you must identify at least one faculty member that is willing to serve as your advisor.

For more information about requirements, admission, and program description go to Biology Department Graduate Programs.

General Requirement: Master of Science, Doctor of Philosophy

As a part of their professional training, all M.S. and Ph.D. candidates must perform departmental teaching and/or research.

Requirements: Master's Degree Programs

Biology- Master of Science

1. Incoming students are expected to have completed a bachelor's degree and should have a broad course background in biology, chemistry, physics, and mathematics or statistics. A student may be required to complete undergraduate courses as part of his/her program of study.
2. Complete a pedagogy workshop upon entry to the graduate program, prior to assistantship duties, and complete an introductory seminar (BIO 601) during the first fall semester in residence.
3. Complete at least 30 semester hours of graduate work including:
 - a. at least 9 hours of formal course credit,
 - b. at least three seminars, and
 - c. six to 12 hours of thesis credit in biology. Not more than 10 semester hours of transfer credit can be applied to the degree. A course of study must be approved by a committee of graduate faculty during the first year in residence.
4. Pass an oral defense of your thesis proposal, approved by a committee of graduate faculty.
5. Conduct a research project approved by a committee of graduate faculty and present the project as a written thesis and in a public seminar.
6. Pass an oral examination in defense of your thesis, approved by a committee of graduate faculty.

In addition to the general requirements described above, M.S. students may be eligible for a certificate in Ecology by taking additional specific formal coursework. See the field of study listings in this Graduate Bulletin titled Ecology-Certificate for more details regarding requirements.

Requirements: Doctoral Programs

Biology- Doctor of Philosophy

In addition to the general requirements specified by the Graduate School, you must:

1. Fulfill all requirements specified for the Master of Science in Biology and any further courses specified by your graduate advisory committee. Doctoral students are expected to participate

- in graduate seminars throughout their program, are expected to participate in departmental teaching as part of their professional development, and are required to complete at least 30 semester hours of dissertation credit (BIO 850). A course of study must be approved by a committee of graduate faculty during the first year in residence;
2. Demonstrate adequate knowledge of biology and related areas by successfully passing a written and oral comprehensive examination administered by a committee of graduate faculty;
 3. Pass an oral defense of your dissertation proposal, approved by a committee of graduate faculty;
 4. Conduct a research project approved by a committee of graduate faculty and present the project as a written dissertation and in a public seminar;
 5. Pass an oral examination in defense of your dissertation, approved by a committee of graduate faculty.